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**FINAL EVALUATION REPORT  
LUMI CHILD SURVIVAL PROJECT  
LUMI DISTRICT, PAPUA NEW GUINEA**

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**Submitted to:**

**PVO Child Survival Grants Program  
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## ACRONYMS

ANC	Antenatal Care
ARI	Acute Respiratory Infection
BCG	Bacilli Calmettffiuerin (tuberculosis vaccine)
CDD	Control of Diarrhea1 Diseases
CSP	Child Survival Project
DIP	Detailed <b>Implementation</b> Plan
DOH	Department of Health
DPT	<b>Diphtheria/Pertussis/Tetanus</b> Vaccine
EPI	Expanded Programme on Immunization
HE0	Health Extension <b>Officer</b>
HIS	Health Information System
IBN	Impregnated Bed Net
IGA	Income-Generating Activii
IUD	Intrauterine Devii
JHU CSSP	Johns Hopkins Univ. Child Survival Support Program-
LCSP	Lumi Child Survival Project
MCH	Maternal and Child Health
OPV	Oral Polio Vaccine
<b>ORT/ORS</b>	Oral Rehydration Therapy/Oral Rehydration Solution
PHC	Primary Health Care
PNG	Papua New Guinea
PVO	Private Voluntary Organization
sss	SugarSalt Solutbn
I-r	Tetanus Toxoid
<b>USAID</b>	<b>United States</b> Agency for International Development
VBA	Village Birth Attendant
VHA	Village Health Aide
WCBA	Women of Child-bearing Age
WHO	World Health <b>Organization</b>
<b>WV/WVI</b>	World <b>Vision/World</b> Vision International
WVPNG	World Vision/Papua New Guinea
WVRD	World Vision <b>Relief</b> & Development, Inc.

## **EXECUTIVE SUMMARY**

The Lumi Child Survival Project (LCSP) is carried out by the World Vision office in Papua New Guinea (WVPNG) and the Lumi District Department of Health (DOH), with funding provided by WVI and the United States Agency for International Development (USAID).

**LCSP Achievements.** Because the LCSP had been fully functional for **little** more than a year, by no means all of the quantitative goals **specified** in the DIP had been achieved. A detailed review of the quantitative results, **revealed** in the baseline and final KPC survey findings, is presented in Section AI, below. Given the nature of the Project, and the many constraints that affected outcomes, it is important to stress the qualitative results, which can reasonably be expected to result in better care for children and their mothers in PNG long after the Project per se is completed. Some of these are mentioned briefly here.

**1. Quantitative objectives.** The project has contributed significantly to improvements in DOH-run immunization services in the District and to a **20% increase in the number of children aged 12-23 months who are fully immunized according to WHO standards.** The KPC Survey results showed a 40% increase in the number of infants less than 4 months who are exclusively breastfed, and some **improvements in the diets of weaning age children and pregnant women.** Although the end-of-project targets have not yet been met, positive progress has been in all intervention areas, particularly in the last year, and given improvements achieved in DOH **capacity**, progress can be expected to continue.

**2. Village Development Committee (VDCs).** **Selected villagers were trained in the establishment and management of VDCs and by now, as reported** in more detail below, at least seven are functioning, they are producing visible improvements in the standard of **living** in their communities, community members **are** enthusiastic, and representatives from other villages have requested assistance in establishing their own such committees.

**3. Field site for training.** If we are ever to break away from **relying** almost completely on didactic methods of training health personnel, we need sites that **provide** decent services where candidates can be sent to participate and learn by doing. The LCSP can provide such opportunities for some service delivery activities and, over time, can be expected to become a good place for on-the-job training in most aspects of PHC and child survival.

**4. Effective PVO/DOH collaboration.** The LCSP provides an excellent demonstration of the ways in which the resources and energy of a private volunteer organization (PVO), as represented by WVPNG, can be used effectively to strengthen service delivery by the government health **services**, in this case the Lumi District Department of Health (DOH). No doubt the success of this collaboration is due to the particularly cooperative personalities of the personnel of the **two organizations** and their ability to work together effectively. That does not diminish their usefulness as an excellent example - both of the value of such collaboration, **and** of how **it** can be done.

**Problems/opportunities.** The results of some of the child survival activities of the LCSP were disappointing. Reasons for some of these failures were fairly apparent. The final evaluation process provided an opportunity to review the results, good and bad, try to understand the problems responsible for some of the failures, and look for possible solutions. Among those problems, several were worth noting here.

✓ **1. Limited impact of ~~health and nutrition education~~ activities.** As will be seen in the quantitative results revealed by the baseline and final KPC surveys, many of the attempts to increase knowledge or change behavior through health and nutrition education activities produced **few or no measurable** changes. The Project team agreed unanimously that this is a problem that requires prompt and sustained attention.

**2. Prevalence of malnutrition in infants and young children.** The data available when the LCSP was initiated suggested **that malnutrition** in the young children was a serious problem. The data available for the final evaluation showed that malnutrition remains a serious problem. What is now known about the impact of malnutrition on mortality in these children demands that the problem be taken seriously and every effort made to reduce it.

## I. PROJECT ACCOMPLISHMENTS AND LESSONS LEARNED

### A. PROJECT ACCOMPLISHMENTS

#### A.1 PROJECT DESCRIPTION AND GOALS

In 1992 **USAID** granted WVRD and **WVPNG** three years of funding to operate a Child Survival project (CSP) in the Lumi District of Papua New Guinea. The USAID grant award of \$459,662 was matched by \$178,413 from WV for a total of \$638,075 to be spent on field and headquarters support activities over three years. The grant went into effect on August 31, 1992 and ended on September 30, 1995.

Lumi District comprises a remote, mountainous region of Sandaun Province (formerly West Sepik) in the northwest corner of Papua New Guinea. Covered by thick jungle, there are few roads in Sandaun, and many of these are impassable during the periodic tropical rains. Mission Aviation Fellowship (MAF) airplanes provide the only means of transportation to many of the communities scattered throughout the region. Although Lumi is the largest and most populous district in Sandaun Province, when the project began Lumi District lacked basic infrastructure and most social services and its infant mortality and malnutrition rates were the highest in the province. Sandaun Province itself was identified by the national DOH as one of three priority provinces due to the extensive health needs of its population. The low health status of the population is exacerbated not only by the lack of access to formal health services, but also by very low levels of income, literacy and social status, particularly among women. The variety of languages, difficult terrain, and lack of communications and infrastructure complicate efforts to address the needs of a population living in numerous small villages scattered across a large area.

The Lumi project covered six of the seven subdistricts which comprise Lumi District, a remote region in the mountains of northwestern Papua New Guinea. Recent estimates suggest that the District covers 200 villages with a **population** of over 32,000 including approximately 17,000 adults and 5,100 children under age 5. The project population, a combined total of approximately 24,000 people living in approximately 165 villages, are primarily small-scale gardeners and gatherers **with** little or no disposable income. Seven to nine distinct "language groups" are spoken in the region, among which Pidgin is the only shared language. The District includes no major town centers, and the **difficult** terrain and distance between the District villages and the nearest major towns result in high transportation costs, and high cost and frequent shortages of food, fuel, medical supplies and other essentials.

Much of the population has little or no access to health care or other basic services. Although there are 24 one-man Aide Posts, 3 two-man (major) Aide Posts, 3 Health Sub-centers and 2 Health Centers in the District, many live several days' walk from the nearest health facility. The total DOH health staff manning and supervising these static sites and outreach activities is 52, including 12 nursing officer, and one Health Extension Officer (HEO). The HEO is based at the Lumi Health Center, near the project office, and has served as an active partner in the project's ongoing development and implementation. During the life of the project there were no physicians among the DOH staff in the region, although there are Missionary doctors working in isolated areas in the District. The LCSP has recently

developed good working relationships with the Missionary health providers which should strengthen the project's effectiveness in the area.

The **CSP's** primary goal was to reduce morbidity and mortality among children under 5 and their mothers by strengthening the **DOH's** capacity to provide appropriate MCH services throughout the region (See discussion in Appendix A, Letter from DOH Health Extension Officer, below). Key inputs included training for DOH and community-based workers and provision of equipment that would facilitate expansion of **health** care coverage across a wider geographic area. All project activities have been designed and implemented in accordance with the goals, objectives and protocols established by the National Health Plan of PNG and the Provincial Department of Health.

In response to the severe constraints that prevent the DOH from providing services to many very remote villages in the region, the CSP adopted a strategy intended to develop self-sufficiency in village populations with regard to primary health care by establishing a **cadre of** trained village health workers, village birth attendants (**VBAs**) and Village Development Committee (**VDC**) leaders in the most remote locations. Project activities focused on training DOH health workers at all levels and Village Birth Attendants (**VBAs**). The project also helped to establish VDCs in 27 of the most remote villages in the region and provided training to members to ensure that each Committee would include members able to participate in and promote activities including environmental sanitation and hygiene, clean deliveries, distribution and re-treatment of impregnated mosquito bednets, and microenterprise development. The project has provided training, human resources, equipment and supplies to support the critical **outreach activities** of the DOH Maternal/Child Health Patrols (See Appendix A for an article describing the critical needs for MCH Patrols in the area.).

Finally, the project worked closely with DOH staff to establish an effective Health Information System (HIS) by collaborating on the design of the HIS forms, printing and distributing the forms, and providing training to health workers responsible for their use. The project purchased a computer and World Vision Headquarters staff provided EPI Info software and training to Lumi CSP and DGH staff to further support the new HIS. The Final KPC Survey represents a key aspect of the HIS training and implementation.

## A.2 **CONSTRAINTS/LIMITATIONS**

**Some explanatory caveats.** The quantitative results of the Lumi Child Survival Project (LCSP), as measured by the baseline and final KPC surveys, must be considered in **the light** of several limitations - limitations in the delivery of CS services as well as limitations in the surveys intended to measure results.

- **Child Survival projects are implemented in the least developed countries of the world, and they generally seek out those sub-populations who are the most severely disenfranchised in the country. As a result, most CS projects function in harsh environments and face multiple environmental constraints. In the case of this project, Lumi District is a mountainous, jungle region with few roads, most of them unpaved. Landslides, flooding and stretches of slippery mud and clay make travel by road treacherous, while the thick jungles require even the most seasoned "bushwalkers" to**

use guides when moving between the widely scattered villages. Some villages are accessible only by water, through a network of rivers and swamps. Mission Aviation Fellowship (**MAF**) provides services to specific points, and many of the key health centers are located near the airstrips, but a considerable portion of the population live a day or more's walk from the nearest MAF station. Further, since the project's inception, financial problems have forced MAF to cut a number of flights from their weekly schedule. Thus, reaching the project population, and shipping equipment to the project office and to DOH health facilities pose constant problems.

- The Lumi Child Survival Project, again like most other such projects, suffered from a variety of factors that delayed the initiation and implementation of child survival interventions. During the first two years of the project there were serious personnel problems as well as significant staff turnover among the WI staff assigned to Lumi. In part this was due to the fact that the staff housing provided by WV could not be completed until about a year ago. Thus, the very competent and dedicated WV team now carrying out the project have been *in situ* only during the past year. Similarly, the DOH director of the project, HE0 Timothy Teklan, was assigned to Lumi only in March of 1994. The DOH and VWI teams, then, have been in place for little more than a year and what can now be described as the very effective collaboration between the DOH personnel and the VWI staff assigned to the Project, was established over the past year. This means, of course, that there has been only one year, rather than three years, in which to achieve the quantitative objectives specified in the DIP.
- When the original LCSP proposal was submitted, all the villages in Lumi District were targeted for intervention, even though it was well known at the time that many of them were difficult, if not impossible to reach, and impossible to cover on a regular basis. When the sample was drawn for the baseline KPC, all the villages in the District were included in the 'universe' and many of those randomly selected for the survey were among the **difficult-to-reach** villages, but, at great effort, they were included in the survey. Since that time, of the 71 villages in the Cumi Health Center Area, the 31 that are accessible were covered on a monthly basis. Because of staff shortages in the DOH, lack of **cold** chain equipment and funding for the EPI programs, and other constraints, the 40 remote villages were rarely if ever served.
- As recommended by the **JHU/CSSP**, the villages used for the Baseline Survey were also selected for the Final Evaluation survey and, again at great effort, interviews were carried out in those villages. As a result, probably half of the mothers interviewed in the final survey had seen no one from the project since the baseline survey was carried out in February of 1993. These families could not have been affected by any of the LCSP, interventions, yet they were included in the denominators for calculating coverage and other outcomes. **Without** any doubt, this tended to decrease the proportion of the target population that might have benefited from the interventions.
- As may be seen in the Final Evaluation KPC survey results (Appendix B), the sample of infants is distinctly skewed toward the first year of life, with almost two thirds of the infants below 12 months **of age**. **The mothers of the youngest infants will therefore have had little or no contact with LCSP staff and Project interventions and their**

knowledge concerning nutrition, immunizations, treatment of illnesses, etc, cannot have been affected. This too is likely to have depressed the quantitative results of the KPC. Reasons for the skewed distribution are not altogether dear, but the instructions for KPC surveys provided by the **JHU/CSSP** require the sample to include only households with children under 2 years of age and specify that the questions asked of the mothers interviewed in the survey should refer only to the youngest child. Birth interval data and the child spacing practices of this population are unknown, but it is dear that in the families with two children under the age of 2 years, the older ones will be excluded. This could bias the sample and may account for the predominance of younger infants in the sample, because responses to the survey questions that refer to older children will be under represented.

- The grant from USAID that made the LCSP possible expires at the end of September, 1995, and the US Embassy in Port **Moresby** had made it clear well before this final evaluation took place that no further USAID funds would be provided. Nevertheless, there is a strong commitment on the part of WVPNG, the WV staff in Lumi and the Lumi District DOH personnel to continue the project, and there are assurances that external funding for continued support will be available through **WVPNG**. For that reason, the two external members of the Final Evaluation Team, Ms Ellen Coates, of WVRD in Washington, and Dr Joe Wray, chose to emphasize strongly the problem-solving, lesson-learning aspects of the evaluation process rather than focussing exclusively on the quantitative data available from the Baseline and Final **KPCs**, or, for example, on the details of training or administrative **activities**. It seemed more important to examine the implications of the results obtained to date for future conduct of the Project and to seek practical ways to improve service delivery or the efforts to educate mothers to provide better food or care for their children. The time and energy available for the Final Evaluation was apportioned accordingly.

### A.3 **OBJECTIVES** AND ACCOMPLISHMENTS

#### A.3.a Quantitative Objectives

The table below reflects the quantifiable project objectives included in the project DIP, and the project's progress in achieving these objectives as measured by reports from CSP and DOH personnel and by results of the baseline and final KPC surveys wnducted in the project area. The KPC surveys are discussed in greater detail in the attached Final KPC Survey Report (Appendix B). Although the project was unable to fully meet the stated objectives during the life of the USAID CS grant, the project did achieve improvements in intervention areas and in health services, practices and health status in the two and one-half years of activity following the baseline survey and development of the project DIP. As discussed below, the project was particularly successful in its final year, and all activities and objectives set in May 1995 were completed by September 1995.



**Table 1. Summary of Lumi CSP Objectives and Accomplishments**

<b>Objectives/End-of-Project Targets</b>	<b>Baseline Levels (3/93)</b>	<b>Mid-term Achievements (8/94)</b>	<b>End-of-Project Achievements (9/95)</b>
1. Assist the Provincial DOH to develop a 5-year District Health Plan	0	N/A	N/A
2. Facilitate formation and preparation of 12 Village Development Committees	0	1st training completed	27 trained, 10 visited (follow-up)
3. Facilitate recruitment, training and deployment of 30 Village Health Aides.	0	30 recruited, training curric. developed	N/A, deleted due to gov't policy shift
4. Facilitate recruitment, training and deployment of 30 Village Birth Attendants.	0	0	20 trained 18 functioning
5. Increase immunization coverage to 70% of children 12-23 months fully immunized	14%	MCH patrol coverage expanded	34.7%
6. Immunize 50% of WCBA with 2 doses TT	N/A	MCH patrol coverage expanded	N/A*
7. Ensure that 89% of cases of diarrhea in children under 5 years are treated with appropriate ORT	57%	105 mothers educated on ORT	62%
8. Ensure that 75% of mothers whose children under 5 have diarrhea continue providing usual or increased amounts of foods and fluids.	49%	105 mothers educated	47%
9. Ensure that 79% of infants aged 0-3 months are exclusively breastfed.	47%	135 mothers educated	66%
10. Increase to 80% the percent of pregnant women who make at least one ANC visit.	54%		64%
11. Increase to 50% the proportion of deliveries supervised by a trained health worker or birth attendant	19%	30 infants safely delivered at Lumi Health Center	20%
12. Increase to 30% the proportion of mothers who can name at least two signs of childhood pneumonia.	0	0	
13. Ensure that 80% of households with a child under age 5 years have an impregnated bednet.	46%	200+ nets distributed, DOH staff trained to retreat nets	55%
14. Ensure that 60% of pregnant women receive Chloroquine or other appropriate malaria prophylaxis.	NA	NA	NA

\* The survey questionnaire utilized did not cover this intervention.

While most interventions and objectives can be assessed using the KPC survey, the LCSP's key goals included capacity building through collaboration with the DOH and training of both DOH and village-level workers to improve health services and health status throughout the

project area. To that end, W, in partnership with the DOH, planned a range of training activities and technical inputs that impact but are not directly related to standard CS interventions and require other means of assessment. Discussions with LCSP and LDOH staff, other health workers in the region, and a site visit to a village with a project-sponsored VDC provided insights into the project's achievements in these areas.

**Five-Year District Health Plan.** Unfortunately, work on the Lumi Five-Year **Health** Plan **did not begin during** the life of the USAID funded CSP because the Provincial Five-Year Health Plan, on which the District Plan must be based, was not released until the Summer of 1995. However, the DOH Health Extension Officer (HEO) in charge of the Lumi Health Center reported that the **project** had assisted the District DOH in developing their current **approach** to, and **self-assessed** capacity to develop a District Plan in the very near future. The revised HIS system introduced through the collaborative efforts of the CSP and DOH staffs represents a **particularly** important contribution to the successful implementation of the **DOH's** plan of action to date, and **will** be a key element of the anticipated District Health Plan.

The project staff were able to **work** with their DOH counterparts in Lumi to modify and improve the existing HIS. The project printed complete sets of all HIS reporting forms and children's clinic books (i.e. health record books) and provided a one week training course for CHWs and other health workers **responsible** for completing and utilizing the forms (Some of these forms are included in the attached appendices, e.g. **D**, **E**, **F**). The CHW in charge of the **Aid** Post visited by the Evaluation Team reported that the new, **modified** forms were **much** easier and less time-consuming to use, and the HEO of the Lumi Health Center reported that the Provincial DOH are so pleased with the Lumi District's new HIS that they hope it will be replicated in other **Districts** in the Province. It is also expected that the enhanced reporting/monitoring capacity will contribute to development and implementation of the anticipated District Health Plan. The **Lumi** HEO, W staff based in Lumi, and the VWPNG Health Advisor all stated that they plan to **apply** lessons learned from the HIS, the KPC survey experience and their newly acquired EPI Info skills to other health activities and W projects.

**Village Development Committees.** In August 1994, the 4th quarter of the second year of the **project**, the CSP and DOH **jointly** conducted a Village Leadership Training Program. Twelve villages located further than a **two** hour walk from the nearest **Aid** Post, were specifically invited to send representatives. Fifteen other remote villages also sent representatives to the week-long training program in response to project-sponsored radio broadcasts and **word-of-mouth** advertising through churches and friends/family networks. Of the original participants, 19 returned for a **4-day** refresher course offered in July, 1995. Representatives also attended from 8 additional villages interested in establishing their own VDCs. The VDC training provided by the CSP staff, in collaboration with the Lumi District HEO, Rural Development Officer and Business Development Officer, included:

- community **self-assessment** for problem identification and problem solving
- roles and functions of VDCs
- small scale business ventures, bookkeeping, loans, fees and ownership
- Women in development
- agriculture, home gardening and cash crops
- primary health care, especially nutrition and maternal health
- environmental health/sanitation, water protection and hygiene

- c malaria prevention
  - 1) environmental measures including draining swamps and clearing brush
  - 2) promoting use of impregnated bednets and bednet **re-impregnation** techniques

Of the 10 VDCs visited since training, seven villages have established **VDCs**, developed a Plan of Action which is being followed, and have demonstrated impact. Some VDCs have also sent **"progress** reports' to the CSP Health Educator. The village visited by the Final Evaluation Team has successfully built drainage ditches which have contributed to the success of their coffee growing business, improved access to riverways leading to the roads to towns where the coffee crops can be sold, improved environmental sanitation and community health, and beautified the community. The VDC there has also **established** a successful community work schedule which includes maintaining the coffee and peanut crops, maintaining the cleanliness of the community and maintaining the local Aid Post (small scale health service center). Progress and follow-up reports submitted since the first training workshop indicate that other VDCs have mobilized their local communities to build latrines, establish waste disposal pits, form women's and youth groups, and engage in a variety of income-generating activities which benefit both individual families and the **VDCs/communities** themselves. (See Appendix C)

During the Evaluation Team's visit to the Magleri VDC, the VDC representative who attended the CSP training course described coming to realize during the course that he and his neighbors could work together to improve the village and their lives, and perhaps could even develop their own small village to a level comparable to Wewak, a town with a thriving business, modern buildings and infrastructure including electricity and paved roads, and its own radio station. He was able to transfer this lesson to other VDC members and together they stimulated a sense of **self-reliance** and an active self-help approach that has led to **considerable** changes. In addition to the environmental improvements listed above, community members used materials from two abandoned DOH buildings to build an in-patient ward adjacent to the local Aid Post. Community members told the evaluation team that if the current national financial crisis and lack of transport prevents the DOH from delivering beds for the ward, they will build the ward's beds themselves with locally available materials. They hope to build their small Aid Post (the most basic of DOH static health facilities) to a level surpassing the Health Sub-Center at Edwaki 'and steal Edwaki's patients.' It is important to note that such improvements have been, and will likely continue to be, made without ongoing direct support from the Lumi CSP; in other words, the VDC program represents a sustainable activity which can be expected to continue without USAID funding or direct, material assistance from the Lumi CSP.

Finally, the success of the VDC program has had a 'spill-over' effect. For example, the Community Health Worker in charge of the Magleri Aid Post, a key member of the local VDC, reported that other communities in the area have asked him to help them establish their own **VDCs**. The broader impact of the project's VDC component is further evidenced by the fact that the Lumi CSP Health Educator was invited to participate in a government run training program introducing similar village-based community development activities in another region.

Village Health Aides. In order to avoid conflict with a shift in national policy which will now provide for paid village health aides (**VHAs**), the project dropped its training program for

volunteer **VHAs**. Primary health care messages and skills have been disseminated to remote villages, however, through VDC and VBA training and during MCH patrol outreach clinics.

Village Birth Attendants. Although establishing a cadre of trained, accepted VBAs is a common component of maternal care interventions included in **CSPs**, the KPC survey turned out to **be** an ineffective method of measuring **the** success of this intervention. **While** in many cultures a trained person who attends a bii would be **the** one to cut the umbilical cord, tradition in the Lumi District demands that the father of the baby cut the cord. The question **"Who** cut the baby's **cord"** therefore is not an effective determinant of VBA attendance.

The project did **recruit**, train and equip with VBA **kits 20 VBAs**, 18 of whom **are currently** working in their own villages throughout the District, and one of whom moved out of the Province. One trained VBA has abandoned her activities, apparently due to personal **conflicts** in her village. Since a refresher training **course** held in Year 3 of the project, **project-trained VBAs** have successfully delivered upwards of 16 infants, as reported to CSP and WH staff, and have made at least 5 appropriate referrals.

Malaria Prevention. The project's efforts to reduce the very high incidence of malaria links the **project**, WH and community leaders in an impregnated bednet distribution program which involves community-based distribution of LCSP-supplied bednets and a modest cost-recovery program which will allow purchase of additional treatment chemicals and bednets. The project **provided** 3,566 bednets and 7 drums of the treatment chemical **Permethrine**, and facilitated bednet **impregnation** and m-treatment training for CHWs and APOs attending a refresher workshop in July 1995. As this **program** is new, and freight problems have delayed distribution of the nets, the KPC survey results reflect only a small increase in **the** household use of bednets, but community interest is evident, and it is expected that use of **bednets** will increase as the program continues. For further discussion see Appendix D.

EPI Coverage. The percentage of children 12-23 months of age who are fully immunized **rose** from 14% at Baseline to 34.7% at the Final KPC Survey. **While** the **project** did not **fully achieve the** 70% coverage stated as the end-of-project objective for children's immunization, given the fact that project activities and interventions did not actually go into **effect** until late in year 2 of the project, it is important to note that in the remaining year of the project, the LCSP did surpass the 25% coverage level listed in the DIP as the expected achievement after **one** year of project activities. Table 2 and the discussions in the KPC Survey Report (Appendix B) reflect the improvements in coverage by immunization. See Appendix E for a summary report submitted by a former WH Nursing Officer who served as a key LCSP staffmember involved in MCH **patrol** activities and training.

WH capacity building at the static facility and MCH patrol outreach levels has been a priority for this CS project, and much of this effort focused on improving the WH immunization program through a range of inputs. Although the outcomes are not fully reflected in the KPC survey results, the project did, in fact, strengthen WH capacity to provide immunization services in the District, and facilitated changes that should continue to enhance the **DOH's** EPI activities after the project has ended. Given the comprehensive range of activities directed toward this effort, which enhanced overall DOH capacity for service delivery to remote areas, health education/promotion at the community level, contact opportunities for other non-EPI interventions, and utilization of the HIS, this component of the project bears

further discussion.

Project inputs for EPI development include inputs of refrigerators with extra gas supplies installed at 7 major static WH facilities, along with vaccine carriers and ice packs that will further seam the **cold** chain and allow for outreach activities throughout a much larger geographic region, as well as **ensuring** ongoing EPI services at the health centers themselves. The modified HIS has streamlined record keeping and will **allow** for closer monitoring of both immunization coverage and incidence of vaccine-preventable diseases throughout Lumi.

Before the **Lumi** CSP began, only 31 of the **DOH-designated immunization** clinic centers could provide immunization services due to a critical lack of funds, manpower and equipment. The forty out-maw sites not accessible by road and located more than a four hour walk from the nearest drop-off site or static clinic had no immunization services at all. In fact, the WH had suspended all outreach services, including MCH patrols and school vaccination programs, despite the very low immunization coverage among infants and school children in the region. Equipment and supply failures compromised the **cold** chain at the two Health Subcenters and thirteen of the twenty-seven Aid Posts in the Province to such an extent that immunization services were often unavailable even to walk-in patients presenting at these WH facilities. Since the CSP-sponsored purchase and installation of gas refrigerators and three gas cylinders each at two major health centers, three health **sub-centers** and two major Aid Posts, and facilitated shipment of vaccine supplies **from Wewak** to WH health facilities throughout the District, static EPI clinics have been restored.

The project also supplied the necessary resources to restore MCH patrol coverage to the full WH target level calling for regular immunization service delivery to all 71 static and outreach clinic **sites** and schools. The upgraded MCH patrol program includes both service delivery and health education directed at mothers, women's groups, community groups and school children. Although the KPC survey, which was implemented in a number of villages still unreached by the WH **vaccination** program, does not reflect achievement of the project's targeted level of **improvement** in immunization coverage, analysis of the data on a community ("**cluster**") basis evidences very high coverage among those communities with access to health facilities **and/or** DOH immunization outreach sites. It is expected that with the recent installation of the last refrigerators, and the last shipment of vaccine carriers, coverage will increase even further, and as these material inputs are relatively permanent, improvements will likely be maintained as long as the WH continues to supply vaccine. The refrigerators will also help secure the **cold** chain and ensure maximum safe **shelf-life** for the vaccines.

The upgraded HIS has also **benefitted** immunization service delivery. When the CSP began, all of the static facilities used different record keeping systems, and reported to different administrative authorities. Now all are using the modified forms printed and distributed by the CSP, the CHWs and nursing officers staffing these facilities have all received training on use of these forms, and all are following the same reporting schedule. Consolidation of reporting and introduction of computers with data analysis programs including EPI Info, along with appropriate training on utilization of these programs, will improve immunization coverage and monitoring throughout the district. In fact, some benefits have already been realized by virtue of the fact that the evaluation team was able to use the completed HIS forms submitted over the last several months to conduct a more detailed analysis of EPI coverage than would otherwise have been possible, comparing coverage in relation to MCH patrol activities, static

sites, vaccine availability, etc. This information will inform ongoing EPI activities and ensure appropriate distribution of services.

Tetanus Toxoid. Neither the baseline nor the final KPC surveys provided data on **TT2** coverage among women of child-bearing age. However, both the Lumi Health Extension Officer who manages the Lumi Health Center, and the Nursing Sister who runs the Catholic Church-sponsored Health Center at Fatima stated that **TT** vaccines are routinely provided to all pregnant women and WCBA presenting to static health sites. The MCH patrols also cany **TT** and vaccinate women **during** outreach clinics.

While the LCSP did not fully achieve all of its end-of-project targets, the final KPC survey does reflect positive improvements in each of the remaining DIP objective indicators, as shown in Table 1, above. The survey also reflects positive improvements in other benchmarks of the health status of mothers and their infants, some of which are shown in Table 2, below, and in the KPC Survey report, attached as Appendix **B**.

Table 2. DIP Objectives Showing Positive Improvements Since Project Inception

Activity/Intervention	Baseline Survey Results	Final Survey Results
Initiate breastfeeding within one day after delivery	57.1	68.8
Mothers who know to add foods to baby's diet along with breastmilk when baby is 4-8 months	12.8	18.2
Mothers who add oil to baby's diet along with breastmilk	0.0	<b>06.9</b>
Mothers who add vitamin A rich foods to baby's diet along with breastmilk	52.8	<b>68.0</b>
Mothers who add iron-rich foods to baby's diet along with breastmilk	04.4	<b>19.3</b>
Mothers who do not want another child in the next two years who are using family planning	14.7	30.6
Mothers who know to add protein to their diet during pregnancy	15.6	23.3
Mothers who know to add iron-rich foods to their diet during pregnancy	77.6	89.1
EPI coverage among children 12-23 months:		
DPT 1	57.5	73.7
DPT 3*	34.0	45.3
OPV 1	67.0	76.8
OPV 3'	37.7	42.0
BCG	59.4	73.7
Measles 1	41.5	60.0

\* Although the drop-out rate appears to have increased, this is explained by the fact that the MCH patrols expanded coverage considerably in 1995, such that many children were reached for the first time, but not enough time had passed for them to receive additional doses before the KPC Survey was conducted. For further information see the KPC Survey Report

As shown in the KPC Survey Report, mothers also responded that they “didn’t know” answers to knowledge questions less frequently at the final survey than they had at baseline. While **the** project **clearly** was most successful in those areas involving direct service delivery and enhancement of DCH skills, technology and capacity, efforts to improve mothers’ knowledge and practices through health education/promotion are beginning to take effect.

### A.3.b Non-quantified Objectives and Accomplishments

Section **D.5c** of the DIP, provided the detailed implementation plans for nutritional improvement, noted that,

In 1983, a national nutrition survey revealed that 38% of children under five in PNG **were** less than 80% of the average weight for age. Sandaun Province had one of the highest proportions of children in this category (**51%**), and within the province, Lumi District had the highest rate (68%). The same survey also **revealed** that in Sandaun Province nearly 80% of children 12-23 months of age were less than 90% of average weight for height, including over 20% who were less than 80% of average weight for height

The most recent statistics from the DOH indicate that of all children weighed in Sandaun Province during **1990**, **6.5%** of children under one (the highest provincial rate in the country) and 3.4% of children 1-4 years had a weight for age below 60% of the standard . . . ” (DIP, p 15).

Having noted the severity of malnutrition in Sandaun Province, the DIP then spelled out a comprehensive, detailed and carefully thought-out plan of action, a plan that **“focuses** on training of health **workers** and volunteers to provide appropriate education to mothers and on explanation of **alternatives for** improving agricultural production and increasing **income** levels . . . The plan included provisions for the training of health **workers** to educate mothers, promoting breast feeding, teaching **mothers how** to feed their children during the weaning period, and other measures to **improve** nutrition. The plan also recognized a variety of constraints to the improvement of the nutritional status of children including,

The lack of mothers’ knowledge regarding nutrition and appropriate feeding (as shown in the baseline survey); the poor local availability of many types of foods and the high cost of such foodstuffs in stores and the market; the **cultural** importance of and prominence in the diet of nutritionally-poor sago; the burden of worms, **diarrhea**, and infectious diseases such as malaria, pneumonia, measles, and tuberculosis; the lack of a strong nutrition component in the training curriculum of health workers and, according to the DOH, a lack of interest on the part of health workers in the field of nutrition; and a lack of a multi-disciplinary approach and inter-sectoral support for improving nutrition” (DIP, p 17).

The DIP provided a strategy for improving the nutritional status of pregnant women and called for support of the DCH protocols for the special care of low birth weight babies. It supported the ongoing growth monitoring activities of the DOH, rather than the establishment of new programs, and specified that **WW** would provide 30 Salter scales for Health Posts currently lacking them. The scales have been purchased, but not yet delivered to the Posts. The DIP

also called for the development of a strategy to deal with Vitamin A deficiency, based mainly on education of health workers and the public rather than on the provision of Vitamin A supplements. No quantitative objectives were set either for growth monitoring or Vitamin A activities.

In fact the only quantitative nutritional goal specified in the DIP called for exclusive breastfeeding **from** birth through 3 months of **age** of 70 per cent of infants. Given the overwhelming prevalence of breastfeeding during the early months of **life** (even though it may not be strictly exclusive) and the continuation of breastfeeding through the second year of life **in** almost all this population, the **achievement** of this quantitative goal is not likely to produce much change in the nutritional status of Lumi infants and children, since the proportion is already high.

Neither **the** Baseline nor the Final KPC surveys included anthropometry or any other direct indication of the **nutritional** status of the children. It was possible, however, to obtain some idea of the current status by reviewing the reports of the growth monitoring **activities** carried out during the monthly PHC patrols. According to the DCH protocols for **growth** monitoring, weights obtained are plotted on the DCH growth charts. (See Appendix F) The charts include lines indicating 80 per cent and 80 per cent of the expected weight for age and a tally is kept of the number of children whose weights are above 80 per cent, between 80 and 80 per cent (children who have **mild or moderate malnutrition**), and below 80 per cent (those who have severe **malnutrition**). The monthly reports for March, May, June, July and August of 1995 were available and reviewed and **are** summarized in Table 3, below. As may be seen substantial numbers of children were weighed during these five months. They **are** by no means a rigorously drawn random sample, but they are probably fairly representative of under one year olds and 1 through 4 year olds in Lumi District. As the table reveals clearly, the **nutritional** status of these children has not significantly improved since 1983 or 1990.

**Table 3. Weight Status of Children 0 - 11 Months and 1- 4 Years of Age in the Lumi Child Survival Project Area Expressed as Percent of Weight Expected for the Age, As Observed During Several Months During 1995.**

<b>Age Group</b>	<b>0-11 months</b>			<b>1-4 years</b>		
	<b>&gt;80%</b>	<b>80-60%</b>	<b>&lt;60%</b>	<b>&gt;80%</b>	<b>80-60%</b>	<b>&lt;60%</b>
<b>March 1995</b>	<b>36</b>	<b>42</b>	<b>3</b>	<b>80</b>	<b>136</b>	<b>12</b>
<b>May 1995</b>	<b>29</b>	<b>29</b>	<b>3</b>	<b>13</b>	<b>6</b>	<b>?</b>
<b>June 1995</b>	<b>67</b>	<b>71</b>	<b>8</b>	<b>140</b>	<b>241</b>	<b>9</b>
<b>July 1995</b>	<b>44</b>	<b>49</b>	<b>7</b>	<b>143</b>	<b>149</b>	<b>6</b>
<b>August 1995</b>	<b>12</b>	<b>9</b>	<b>2</b>	<b>62</b>	<b>39</b>	<b>6</b>

The findings shown in this table need to be considered in light of the fact that at least since the Pan American Health Organization study carried out by Puffer and **Serrano**, published in 1973, a strong association between malnutrition and mortality in children under five has been



well known.' More recently, and **more** importantly, a team of Cornell University nutritionists recently reviewed the best available studies of the association **between** malnutrition and mortality.' **The** study revealed **a relative risk** of 2 for mild malnutrition, 3 for moderate malnutrition and **11 for severe malnutrition (i.e., children whose weight for age below 60 percent of that expected)**. They reported,

**"The odds of dying increase at a compounded rate of 7.3 percent for each percentage point deterioration [decrease below 80 percent] in weight-for-age."** (Emphasis added).

In their discussion they note:

**"...Contrary** to earlier impressions, mild to moderate malnutrition is indeed **associated** with an elevated risk of **mortality**, an association that has great policy **significance** considering **the** overwhelming number and proportion of children who fall into this category. **The** result is that 45% to 83% of all malnutrition-related deaths (i.e., the population attributable risk) occur to children in the mild and moderate category **(weight-for-age 60% to 80%)**. These deaths would not be reduced if **policies and programs were directed solely toward treatment of the severely malnourished**" (Emphasis added.)

Alan Berg, Senior Nutrition Advisor of the World Bank, has quoted **a further** study by Pelletier **et al**, not yet published, which was presented **at a meeting early this year.**<sup>3</sup> Berg said,

The bottom line of one of the most talked about **papers** in nutrition circles in recent **years is that malnutrition has a far more powerful impact on child death than is typically recognized**. Conventional methods of classifying cause of death suggest that **roughly 70 percent** of child deaths worldwide are **due to** diarrhea, acute respiratory infection, malaria **and immunizable** diseases. Wrong, some say now. Or, at least, misleading. The new paper by David Pelletier **and** colleagues from Cornell (presented at the 1994 annual **Federation** Meetings for **Experimental** Biology) applies **a freshly-**developed epidemiological method to estimate the percentage of child deaths caused by **the** potentiating effects of malnutrition in infectious disease. With nationally representative data on weight-for-age of **6-to-59** month olds for 53 developing countries **... the model indicates that a full 56 percent of child deaths are due to malnutrition's potentiating effects.**" (Emphasis added.)

Thus, given **the serious** consequences of malnutrition - whether mild, **moderate** or severe! - and the continuing high prevalence of malnutrition in the District, it is clear that the nutrition education activities carried out by the LCSP have not had the desired effects and that

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<sup>1</sup> Puffer, RT and CA Serrano, 1973, Patterns of Mortality in Childhood. Washington, DC: Pan American Health Organization, Scientific publication 262..

<sup>2</sup> Pelletier, DL, EA Frongillo Jr and J-P Habicht. Epidemiologic evidence for a potentiating effect of malnutrition on child mortality. American Journal of Public Health 83: 1130-33, 1993.

<sup>3</sup> Berg, Alan, New and Noteworthy in Nutrition (No. 24) The World Bank, October 13, 1994.

malnutrition remains a serious problem and one that demands redoubled and more effective efforts. Several things are urgently needed:

- All health personnel - at whatever level in the system - and the **public** as well, but especially the mothers, need to understand the seriousness and the consequences of **malnutrition** in the child in Lumi District. This includes understanding the significance of the **80** and **60** per cent weight lines on the growth chart.
- Senior DOH personnel need to **learn** as much as possible about the best foods available to produce an optimum weaning diet for infants and young children in the Lumi District. Using whatever resources can be found, a "lesson plan" should be developed for teaching mothers and other caretakers how best to feed babies during the weaning period between the ages of 6 months and 2 years.
- A series of focus group discussions with mothers of various ages, and their mothers' needs to be carried out in order to understand fully the current concepts and taboos concerning good and bad foods that are common among people in the District, as well as **their attitudes toward** the foods included in the optimum diet as defined **above**.
- The continuing high **prevalence** of malnutrition seen in Table 3 shows that the so-called nutrition education provided so far in the LCBP has been ineffective. Based on the information concerning an optimum diet and the resistance that is likely to be encountered in persuading mothers to use such a diet, new approaches to **nutrition** education of the mothers **must** be developed, field tested carefully and repeatedly, then evaluated equally carefully **to** determine their effectiveness in producing changes in the mothers' behavior regarding infant feeding practices.
- Once an effective **approach** has been found it must be taught to all health personnel who work with mothers in the Lumi District. Equal emphasis must be placed on the content of the **nutrition** messages and on how to communicate the **messages** effectively. **Refresher** training must be provided to assure that everyone who needs this information has it well in mind.
- More specifically, health personnel need to learn how to use the improved nutrition education approaches in conjunction with growth monitoring and to make sure that whenever the growth of a child begins to falter the mother is made aware of it and learns how to deal with it in ways that are feasible in her circumstances.
- Methods of supervision and monitoring must be developed in order to be sure that growth faltering is recognized promptly, that proper nutrition education is provided to the mothers who need it, and that the nutrition of the child does improve reasonably quickly.
- Everyone involved needs to appreciate the fact that a child whose weight is below the 60 per cent line is especially vulnerable and needs to be treated urgently. This will include finding ways to make sure that the mother has access to the food she needs to improve the diet of her child.

### A.3.c Unintended Positive and Negative Effects of Project Activities

Any Child Survival project that is carried out under the conditions that prevail in the Lumi District of Sandaun (West Sepik) Province of PNG, is going to encounter a host of problems and is **likely** to produce unintended results. Examination of these results provides insights that may be useful elsewhere. In some of the findings reviewed here, the results may have been intended, but the degree of positivity or negativity was not anticipated and, thus, **unanticipated** results are examined here as well. As will be seen below, there is some overlap between occurrences or accomplishments that might be called unintended and those that can usefully be considered in the discussions of lessons learned in the LCSP.

#### **POSITIVE:**

1. **Village Development Committees (VDCs).** A copy of the original proposal **for the** LCSP was not available for review during the Final Evaluation and it is not known just what was proposed with regard to VDCs. The Detailed Implementation Plan (DIP), prepared in April of 1993, did refer, almost in passing, to training VDC members and an explicit objective was to Yacilitate formation and preparation of 12 **VDCs**". As noted elsewhere, training programs were in fact devised to prepare community members to establish VDCs in their villages and at least seven VDCs have been established and are functioning well. It should be noted that 20 people were trained, in two different sessions. At the time of the FE it had been possible to visit the villages of only nine of those trained, and, as noted, there are functioning VDCs in seven of those villages.

While it was not unintended, the amount of enthusiasm created and the energetic effectiveness of the VDCs was unanticipated. The VDCs were taught to develop a plan of **action and** they did so. They enlisted the participation of villagers of diierent ages and status and carried out a wide variety of activities that contributed visibly to improvements in the standard of living. These included encouraging people to dig pit latrines, community dean up and garbage disposal activities, building fences to keep pigs out of the water supply, separating drinking water sources from washing water, draining swampy land **to improve access** to **"navigable"** rivers, encouragement of coffee production and marketing to generate income and a other such activities. The impact has been such that representatives **from** some villages that do not have VDCs have asked LCSP staff to provide training and help them create such committees.

One of the most interesting comments from a VDC member (in Magleri) was the assertion that they are making their village as good as the city. It is surely worthy of note that anything that can make villages more attractive and thereby slow the **rate** of rural-urban migration needs to be encouraged. Matthew Hapoto, Health Progmmme Coordinator for WVPNG, made the assertion that the creation of the VDCs was probably the most important contribution of the LCSP, not only because of the impact of the activities carried out by the **VDCs**, but also because of the empowerment effects on the Committee members. He felt that a well functioning VDC makes all the rest of the CS project activities more easy - that everything else would follow. The FE team agreed fully with this assessment.

2. Department of Health (DOH)-World Vision (WVI) Collaboration. Project proposal **rhetoric** almost always includes declarations of intentions to "strengthen existing health services".

Effective **collaboration** between **WVI** and the DOH was certainly intended, but the success of that collaboration was not entirely expected. Probably the most important factor in this success was the availability, finally, of a HEO who was serious about providing good services in his district and understood and appreciated the value of the WI proposal to improve the capacity of the DOH to meet the primary health-related needs of the community by addressing critical **limitations** in the existing health system.' He wanted strongly to improve PHC services in the **Lumi District** and took advantage of the various extra resources provided by the LCSP to do just that. The end **result** is a "live example" of how the **resources of a PVO** can be used **effectively** to strengthen service delivery through providing **training**, refresher courses, supplies and equipment, improved transportation, etc, and there was no doubt on the part either of the WVI or the DOH staff that the joint efforts have paid off **and** resulted in more effective **services**.

3. The **value** and **utilization of** extra **resources**. 'Existing health services\* almost **always** have room for improvement and need strengthening. At the same time the resources commonly available **are barely** enough to maintain the status *quo* much less provide for improvement. An **obviously** important **role** for outside groups (like **WVI** in this case) is to provide the extra resources needed for the additional or refresher training, or equipment, or transportation, that **can** make improvement possible. Obvious as that might seem, outside groups have a tendency to want **"to do their own thing"** (and get the credit for it), rather than helping the local organizations do **what** needs to be done. Thus it is worthy of note that in the LCSP, WVI and the Project team members have done just what should be done, and it is clear that the results show the **benefits** of such an approach. HEO Teklan and the DOH staff have been able to do things that **would** not otherwise have been possible.

4. A **Field Site for On-the-job** Training. There is probably no proposition in education that is more widely accepted than the idea that active learning is more effective than passive teaming - that people learn best by doing. Unfortunately there is probably no concept that is so frequently ignored: training programs for health workers of all kinds rely to an overwhelming extent on didactic lectures. One reason for that is simply **the** fact that field sites with effective on-going programs that can be used for active learning are often not available. The LCSP will provide such a site, not only for health personnel in West Sepik province, but also from other parts of PNG. To be sure, not all of the intentions are being carried out in a completely satisfactory way, but certain activities can and should be used to provide trainees a chance to see things in action. In addition, ongoing efforts to improve service delivery and educational activities will provide further opportunities for learning by doing.

5. Evaluation as a Management Tool. At the start of this Final Evaluation exercise, the LCSP team was **somewhat** fearful or intimidated by their expectations of what might happen. During the evaluation process, however, its usefulness in identifying service delivery problems and exploring possible solutions to those problems became apparent. It was recognized that a variety of sources of information, including the routine HIS data, more or less formal surveys like the KPC, and simple focus group discussions, can provide useful information to determine how well certain intentions are being carried out, as well as providing leads for improving project activities.

NEGATIVE:

1. **The Detailed Implementation Plan (DIP)** was foreign. The preparation of a project DIP is required by USAID and the DIPs are reviewed **carefully** in the US before funds are finally made available to CS projects. Like the evaluation process, the DIP is intended to be an important management tool. Unfortunately the LCSP DIP did not serve that purpose as well as it might have. In the first place it was written largely in Madang, rather than Lumi. Secondly, the LCSP team have the impression that the Australian and US consultants involved in the **writing** disagreed on significant issues. Finally, and most importantly, neither WVI team members, **either** at the national or local level, nor DOH staff at District or Province level, were consulted in the preparation of the DIP. It seems quite reasonable to assume that this occurred **because** of time pressure and imminent deadlines which seemed **to compel** VWRD staff to **'get the job done'**. Thus, although it surely was not intended, the people responsible for project implementation were excluded from preparation of the **project** implementation plan! This compelled one of the external evaluators to bring out the following quotation by Ari Kiev:

"Assuming responsibility that rightfully belongs to others is not unseemly behavior. When you take over a job that someone else ought to do, you **are** either showing them that they are really unreliable or that you can do it better; or **worse** still, that you **are kinder** and more solicitous of them than they are of you. You have done what they should have done."

2. **The DIP was poorly communicated and intimidating.** Not only were LCSP team members, both WWPNG and also DGH, not consulted in when the DIP was written, but **also there was** no **point** in time when it was discussed or reviewed in detail with project team members. It was simply delivered to them **as a** document that was expected to guide them as they began to implement the project. There was unanimous agreement that it would have been very **helpful** if the **author(s)** of the DIP had reviewed it in detail with the team. As it was, they **felt** that parts of it **were** unrealistic or not feasible and that the overall plan was so large and detailed that the team felt they simply did not know where to begin.

3. **The DIP was not a DIP.** When the DIP was reviewed in detail, in the course of this final evaluation, **the** team also agreed that in fact the problems covered in the DIP, and the measures planned to deal with them were very well described, although they had not appreciated it initially. They felt, however, that it was not so much a plan of action that they could follow, but **a** detailed statement of project objectives and sub-objectives. Not until WVI sent consultants in March of 1995 was a useful plan of action prepared.

4. **Delays in getting the project under way.** A variety of obstacles had to be overcome to get the LCSP started **and some** mistakes were made - e.g., the attempt to develop a sawmill to produce lumber to be used in building staff housing was impractical to start with and the saws purchased were not powerful enough to do the job. Since it is well known that there are **always** delays in project initiation, the LCSP team felt that the three year time frame for the Project was unrealistic.

5. Failure to provide feedback to the communities. Although few people currently involved in the Project were present in the beginning, there was a strong consensus that the failure to provide feedback to the communities after the baseline KPC was a missed opportunity and should be kept firmly in mind in the conduct of future projects. They are committed to provide

such feedback to VDCs and community leaders after the final evaluation and believe that it will help mobilize community support.

6. **Limited effectiveness of the health education activities.** Like people all over the world, the villagers in Lumi District have their own beliefs about disease causation and treatment, good and bad nutrition, etc., and, as is also commonly the case, these **beliefs are often at variance** with modern concepts and are resistant to change. Thus, health workers who undertake to persuade people to change their beliefs and behavior face a formidable challenge. It **appears** that neither the WVI nor the DOH staff members anticipated how difficult this would be and failed to provide either the training necessary for effective health and nutrition education or the educational materials - brochures, posters, etc - that might have made the task easier.

7. **Lack of headquarters support and back-up.** The team felt that more frequent visits by headquarters staff, especially during the **early** phases of the project, would have been good for morale and could have helped solve some of the problems. Along the same line, they **agreed** that having radio communication with Wewak and Madang had made a huge difference and wondered why it had taken so long to get it established. The team also felt that WVRD in Washington should make available a variety of educational and training materials **that could serve** as examples and avoid the necessity of 'reinventing the wheel' in developing such materials for use in the Project.

8. **Need for a WVRD newsletter.** In discussions of the need for better communication and back-up one of the participants wondered why **WVRD** does not have a newsletter to keep WV project teams around the world informed about other projects. The magnitude of WV operations might justify such a letter, at least on a **quarterly** basis. Whether or not such a **letter** is possible, someone at headquarters should take responsibility for identifying newsletters published by others that would be helpful to **WV** project teams - e.g., Contact, the publication of the Christian Medical Commission in Geneva, of which Eric Ram is editor - and informing the teams how to obtain the letters.

9. **Communication channels were unclear.** It is obvious **that** if the Project is to get the support it needs, the needs must be known. The LCSP team agreed that in the beginning communication channels were unclear - people did not know where their reports or requests were supposed to be sent. As a result it is suspected that some requests never **reached** headquarters. This is a management problem that WVRD and WVPNG needs to anticipate and avoid in the future.

## B. PROJECT EXPENDITURES

By the close of the project a total of **US\$428,630** had been spent out of the USAID grant of \$459,663. The project had spent \$164,101 of the \$180,414 in matching funds committed by WVRD. A detailed pipeline and discussion of budget variances are presented in Appendix G, attached.

## C. LESSONS LEARNED

**1. A key to success is facilitation of ownership and an attitude of self-help among stakeholders.** Project staff emphasized the fact that after witnessing VDC training and the progress many of the committees have effected in their villages, it is clear that one of the keys to successful community development is facilitating the village members' awareness that they can help themselves and allowing them to decide for themselves which development options to pursue first. These villages have achieved significant, visible improvements in their environment and local resources on their own, and have surpassed the status of many of their neighboring villages which rely on government services. The government does not involve the community members in decisions regarding services or other inputs made available to the community, and reportedly the services do not necessarily address the communities' perceived needs or concerns. Obviously, an important parallel can be drawn between project implementation and community development.

The LCSP mid-term evaluation conducted in September of 1994 found that the project had not made much progress toward achieving the goals set in the DIP. However, in May of 1995, the project staff, with the WWPNG Health Advisor and the Lumi DOH Health Extension Officer developed a very ambitious plan of action designed to meet the DIP goals and objectives (See Appendix H). By September 1995 only one of the activities planned in May had not been achieved, and that one was appropriately abandoned in response to a new government policy which conflicted with that objective. During the final evaluation, the project manager, assistant project manager, and others explained that they had never understood the purpose or function of the DIP, or the relationship between the objectives and the project activities they had inherited. Going through the planning exercise in May helped clarify some of these issues, and gave them an opportunity to develop a workable action plan based on both the project objectives and their knowledge of local conditions, constraints and resources available. They recommended that for every new CSP, not only should local staff participate with HQ staff and other stakeholders in developing the DIP, but once it is written, a meeting should be held with all available members of the project staff, representatives of the country office management and health staff, and WVRD's headquarters representatives to discuss the project plans and goals in detail. Although a potentially expensive proposition, WVRD Headquarters Child Survival team includes regionally based technical staff who could participate in such an activity, and funds could be built in to the DIP (and proposal) budget. Potential benefits from such an activity include:

- early development of working relationships;
- clarification and common understanding of goals, objectives, activities and requirements, and of the roles, constraints and expectations of stakeholders in the country and at headquarters;
- some training for country staff regarding USAID regulations and requirements, reporting skills, and USAID expectations.

**2. The DIP was not reviewed with project staff** - it was "someone else's dream", as so eloquently put by a LCSP staff member. As noted elsewhere, although DOH staff at the Provincial level and some WWPNG national staff were contacted during DIP preparation, LCSP team members, whether WI or DOH, were not consulted in the preparation of the DIP, nor was it reviewed in detail with them once it was completed. Team members considered

this a serious omission. It is now well-understood by the field staff, **WW/PNG** managers, and the headquarters representative on the team that when planning a field project, it is vital to ensure that the local staff have continuous direct involvement and ownership of the **project design** and implementation plan. Once the DIP is completed, a meeting to discuss it in detail should be held between a# current staff members, the country managers who will have responsibility for ensuring that the project receives the necessary attention and resources, the project manager(s) and headquarters staff (and any other available participants in the **project design/DIP** development team). The discussion should **include** the details of the DIP and USAID regulations and requirements directly impacting the project to ensure that all elements are individually and commonly understood. The Health Advisor, in particular, discussed his new insights regarding the value of such activities and plans to suggest such an approach in other health projects he works with or is currently developing.

3. DIP **provided quantitative objectives**, but Project staff did not know where to begin. As also noted **elsewhere**, the DIP was a better statement of detailed project objectives than a plan of action. The plan was so comprehensive that the LCSP team did not know where to begin; better guidance in the beginning, to provide help in determining priorities, would have been useful.

4. **The** KPC survey has problems. The LCSP FE team, both local and external, noted a number of inadequacies in the KPC. These included problems with translation, and the lack of questions that would yield specific information called for by the JHU/CSSP guidelines for quantitative evaluation of CS projects. There is no doubt about the importance of evaluating CS projects, and the KPC survey has been a useful tool; however, an analysis of the efficacy of the KPC survey instrument on a global level is needed. After ten years it would seem appropriate for responsible people at USAID and the **JHU/CSSP** team to meet with selected project implementers from PVO **projects** in different countries to review problems that have arisen in the use of the existing KPC and find ways to improve it.

5. **Project** was **too** ambitious - **tried** to do too much. More, realistic goals and expectations, and recognition of limitations at the start, would have been helpful. If the Project had attempted to carry out fewer interventions, in fewer places, the quality would have been higher and the long term results would probably have been better. As it was, the team was confused, and floundered in their efforts to do everything at once.

6. Villages included in Baseline KPC but not provided with services **were** resentful. **When** interviewers carrying out the final KPC survey returned to the inaccessible villages, for the first time since the Baseline, people in those villages expressed their resentment at the lack of services. In fact, some of the mothers approached for interviews refused and **simply** walked away. This is not a new lesson, but worthy of note. When people are led to expect services and their expectations are not met, not **only is there disappointment, but also the program is discredited**.

7. Training was effective in the teaching of technical skills, but not communication skills. It **was very dear to the LCSP team that the communication skills required for good health and nutrition education of mothers and community members in general were lacking. Better training of project staff in this area is much needed.**



8. **VDC-aid post interaction.** It was clear that having a good aid post orderly (APO) facilitated the establishment of the VDC and that **an effective VDC strengthened the efforts of** the APO. A good VDC not only helped mobilize the people for the CS activities, but it also carried out activities that helped improve the community health. The APO legitimized the VDC, especially when it was first being initiated and also provided guidance and management **assistance on** the on-going activities.

9. **KPC Sunny and Project Evaluations can serve as valuable capacity-building tools b enhance not only the CSP, but other WV projects in the same country or region.** 1) The Lumi project **staff and associates in** Madang reported having gained **a new** understanding of the positive aspects of **an** evaluation. They no **longer** view the End-of-project assessment activities as **a** fearsome test, but rather as **a new opportunity** to build on succetsses and identify target **areas** for change. 2) CORE Team members reported both individually and during their de-briefing **after** the practical exercise in the Lumi Station **area** (Thursday **9/7**) that they felt they could now conduct training **and** implement surveys on their own in the future. During the baseline, the Team members' participation in survey training was limited due to their other administrative and professional duties, so they were unable to fully assimilate the methodology. The opportunity to learn from their misunderstandings of some aspects of the methodology (identified during the evening debriefings) and to actually observe the participants' learning process helped them to learn the methodology more fully and also gave them new self-confidence. **In particular**, several mentioned that they will incorporate demonstration role-playing sessions in future training programs based on their experience with the positive impact of **role-playing** during KPC Survey training sessions.

## II. PROJECT SUSTAINABILITY

### A COMMUNITY PARTICIPATION

The most important of the resources contributed by the community has been the energy reflected in the activities **and accomplishments** of the **VDCs**. These activities **have been** discussed in some detail **elsewhere** and need not be dwelt upon here. What is important is that the performance of the established **VDCs** has caught the attention of people in other villages and some of them have asked for assistance in establishing their own **VDCs**, as noted. At this point the HEO does not believe that the DOH can carry out the training activities without some continuing support from WI, but such support will not be needed indefinitely.

**Financial** support for LCSP activities needs to be viewed in the context of the long standing traditions of providing such services free of **charge** that were established by previous colonial powers and the **missionary** groups that have provided health services. In spite of this, communities are finding ways to provide financial support, both for VDC activities and also selected health services. In some communities where the VDCs have supported coffee production and marketing, farmers contribute a small sum (in effect a tax) from the sale of each bag of coffee; in others, women contribute a few **toa** for the privilege of selling their goods at the markets made possible by **VDCs**. In these cases the money is used to help wver VDC expenses.

With regard to the costs of health-related services the most significant to date is the sale

(albeit subsidized) of impregnated mosquito nets. The nets, which **cost** the Project about 12 K, are presently being sold to households for 4 K. The importance and effectiveness of the nets is well appreciated and therefore people are willing to pay that sum for them. At the least, this is establishing the notion that people can and should pay for some health services. All of this, however, must be seen in the context of an economy that is based mainly on subsistence farming (and to some extent "hunting and gathering") and that a cash based economy is only rudimentary in Lumi District.

## **B. ABILITY AND WILLINGNESS OF COUNTERPART INSTITUTIONS TO SUSTAIN ACTIVITIES**

Although PNG has been independent for 20 years, the MOH and DCH are strongly influenced by the traditions established by former colonial governments. In this case the most recent, Australia, had established a well developed health service that was seriously committed to providing services throughout the country through the network of hospitals, health centers, aid posts, and aid post orderlies who carried out regular health service patrols that delivered services even to remote villages. This determines the expectations both of the providers and also the public. The DCH is committed to continuing to provide such services and the **public** expects them. The problem of course is that the government of independent PNG by no means has the resources that the Australian government could make available for the provision of those services and is hard-pressed to meet the needs. Thus, the DOH, as the principal counterpart **institution, can** be expected to do the best it can, but resource constraints place limits on what can actually be done. There is no likelihood whatsoever that CS activities will cease altogether when CS funding ends, but some curtailment of services is probably inevitable, at least for the foreseeable future. The health services management challenge, then, is to identify the minimum essential services and find ways to maintain them, even if other less important services must be eliminated.

## C. SUSTAINABILITY PLAN, OBJECTIVES, STEPS TAKEN AND OUTCOMES

Table 4. Sustainability Goals and Achievements

Goal	End-of-Project Objectives	Steps taken to date	Outcomes
<b>DOH staff trained in CS activities</b>	54 DOH Staff trained in PHC and CS activities	<ul style="list-style-type: none"> <li>- 3 training courses and refresher courses for DOH Nursing Officers and CHWs;</li> <li>- 1 refresher course for Aid Post orderlies;</li> <li>- EPI Info training for DOH HEO;</li> </ul>	<ul style="list-style-type: none"> <li>- 47 DOH staff trained in PHC and CS activities, IBN treatment and distribution; HIS use; nutrition and health education;</li> <li>- New HIS in use at all static health facilities; Provincial DOH plans to use the Luml HIS as a model for its own new HIS;</li> <li>- HEO and 2 LCSP staff trained on EPI Info and participated in EPI Info analysis of KPC Survey data.</li> </ul>
<p>At least 30 VHAs* and VBAs trained and working with links to the DOH</p> <p>*VHA program dropped due to incompatibility with national policy</p>	<ul style="list-style-type: none"> <li>- 30 VHAs trained in PHC and CS activities and operating at village level</li> <li>- 36 VBAs trained and equipped to conduct in ante/postnatal visits, appropriate referral, clean delivery, well-baby promotion, and performing these at community level</li> </ul>	<ul style="list-style-type: none"> <li>- VBAs and VHAs recruited</li> <li>- Initial one-week training for VHAs conducted</li> <li>- 2 two-week training courses for VBAs;</li> <li>- 20 VBA kits purchased and distributed;</li> </ul>	<ul style="list-style-type: none"> <li>- 20 VBAs trained, 18 functioning in their villages;</li> <li>- VBAs successfully delivered 16+ infants in Project year 3, and made 5+ appropriate referrals</li> </ul>
Community aware of and applying PHC principles	Improvements in CS indicators	<ul style="list-style-type: none"> <li>- 27 village leaders/representatives trained in PHC principles and health promotion;</li> <li>- MCH patrols performing community-based outreach health education and promotion of DOH health services</li> </ul>	<ul style="list-style-type: none"> <li>- Improvements in diets of mothers and their infants and weaning age children;</li> <li>- improvements in home management of diarrhea cases;</li> <li>- 7 or more VDC plans of action in effect include environmental sanitation activities and in some cases gardening for home use;</li> </ul>

Goal	End-of-Project Objectives	Steps taken to date	Outcomes
High level of public demand for and participation in EPI and other CS activities	Improvements in EPI coverage and other CS knowledge and practice indicators	<ul style="list-style-type: none"> <li>- Cold chain equipment provided to expand MCH Patrol coverage;</li> <li>- 27 VDC representatives trained on PHC and health promotion/ education;</li> <li>- seeds provided for use by some VDCs in conjunction with nutrition education outreach programs;</li> <li>- 20 VBAs trained</li> </ul>	<ul style="list-style-type: none"> <li>- Increased EPI coverage against all vaccine-preventable child-hood diseases targeted by WHO</li> <li>- 7 VDCs functioning and implementing health promotion/ disease prevention a - ; communities participating in regular weekly environmental sanitation activities, some growing peanuts and other nutrient-rich crops for home use;</li> <li>- 16 births attended by project trained VBAs in 1995</li> </ul>

Goal	End-of-Project Objectives	Steps taken to date	Outcomes
Improved resources at health centers and aid posts	<p>a) Improved EPI coverage;</p> <p>b) Improved growth monitoring services</p> <p>c) Functioning HIS system in place</p>	<p>a) - 7 gas refrigerators and 21 (45kg) gas bottles purchased and installed at 7 health facilities; - 8 vaccine carriers and 16 extra ice packs purchased and in country as of 11/95 for use by MCH patrols;</p> <p>b) - 22 foot scales purchased and installed at Aid Posts: -50 Salter scales purchased and in use by static clinics and MCH patrols:</p> <p>c) - HIS forms modified by DOH and LCSP staff; - 5000 sets of HIS forms printed and distributed to static health facilities and MCH patrols: - 45 DOH health workers trained to use new HIS</p>	<p>a) EPI coverage rates among &lt;2s increased (see Appendix B)</p> <p>b) new anthropometric data for the project population evidences malnutrition levels - future project activities will include efforts to address this issue;</p> <p>c) - HIS functioning at increased levels in 1995 – additional data used to inform this report and plans for future CS activities; -DOHstaff commented on improvements in HIS forms and reporting system - “easier and quicker to use and to understand”</p>
12 VDCs formed	12 VDCs formed and functioning	<p>- representatives of 35 villages received training, 19 received follow-up training;</p> <p>- follow-up visits made to 10 VDC villages</p>	<p>- 7 VDCs functioning with communities participating in implementation of their own plans of action;</p> <p>- several villages not initially participating have expressed interest in assistance to form their own VDCs-3ofthese have established in VDCs already, modeled after the LCSP-sponsored VDCS</p>

III. EVALUATION TEAM

A. Team participants:

1. DOH

Timothy Teklan, Health Extension Officer, Lumi Health Center  
Benjamin Yenil, **Health** Inspector

2. WVPNG

Matthew Hapoto, WVPNG, Coordinator, Health Programmes  
**Elias** Nara, Project Manager  
Bonny Kinei, **Public** Health Nurse  
Alexia, Gamando, Community Development Worker  
Samuel **Kilawe**, Trainee, Area Project Coordinator

3. External evaluators

Joe **Wray**, MD, MPH, Professor Emeritus, Columbia University School of Public Health, New York City  
Ellen Coates, MPH, Associate Program Officer for Health and Child Survival, **WVRD Headquarters**, Washington, DC

B. Evaluation report **authors:**

Ms. Coates and Dr. Wray, with assistance from LCSP teammembers.

## Appendices

## **APPENDIX A**



## LUMI CHILD SURVIVAL PROJECT:

FIG: 31 - 188471.

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### A LIPE WORTH COUNTING.

This story could be used as one of the many success stories of the Lumi Child Survival Project (LCSP). The experience encountered by this mother in this remote rural village is a classical example of the reality that **confronts** most mothers and their new born babies during **child birth**. This story also shows the fact that the lives of these mothers and their babies can be saved.

It happened in a remote village called Haglari, which is only accessible by air. Here in this **remote** location, a woman faces death as a result of complications relating to child bearing. The Lumi Child Survival Project sponsored **MCH** team headed by Hr. Bart **Masi** (a senior nursing officer with the DOE) had already been in the area for one week when **they came across** this woman.

The woman having her fourth delivery was experiencing complications in delivering **her child**. She had been in labour for the past 48 hours and **was heavily** bleeding. She was also discharging clots of blood via her vagina and had great abdominal and back pains. **Mr Masi's** quick test of the mother confirmed that both the foetal heart and the mother's heart were very weak so **Mr Masi** quickly assisted the woman by inserting an Intra Venous Drip to maintain or resuscitate the mother.

The team knew that hundreds of mothers die for the same reason in similar conditions, and now they're faced with the reality. Can they save this woman?. The **community** were waiting for her to die. This is a **common** experience to them because in such a location, the much needed life saving health services and medical drugs are neither available nor within their reach.

In the mean time the team with their thinking caps stretched to limit quickly worked out the best possible way to get help.

They decided that the team had to split with one staying behind with the woman with necessary medical supplies while the other Hr **Masi** left by foot through a bush track to seek help. After some hours walk he arrived at a nearby community school with a two way **VHF** Radio.

He used the Schools VHF Radio to contact Christian Radio Missionary Fellowship (CRMF) and reported the case and requested assistance from **CRMF** to contact Missionary Aviation Fellowship (MAF) base at Anguginak and the Provincial Health Extension Officer based in Vanimo base Hospital.

CRMF assisted very well and every thing went perfectly as thought and planed, an MAF plane (a censer 206) touched down at Maglari remote Air-strip at **1:30pm**. The woman still in pain and labour was air lifted to Aitape base Hospital. The mother was saved but unfortunately the child could not. If it had not been for the patrol team, both the mother and the child would have died.

This is one of the many challenges and excitements the LCSP is experiencing with people in this environment.

In some areas where our patrol teams can not reach, HCH clinics are never conducted, children not been vaccinated and a lot of mothers and childrens lives which could easily be saved are lost.

A handwritten signature in black ink, appearing to be 'Elias Nara'. The signature is stylized with a large, looped 'E' and a distinct 'N'.

Elias.Nara.

Project Manager.

Lumi Child Survival Project.

Division of Health  
P.O. Box 40  
Lumi District  
Sandaun Province  
Papua New Guinea  
September 27, 1995

Subject: Lumi Child Survival Project -- DOH Overview Report

## I. INTRODUCTION

This report is basically only a brief summary on the overall view of the Child Survival Project in Lumi District which was implemented by World Vision International from 1993-1995. **This** brief coverage highlights generally some key details *of* the activities the CS project had done to support and strengthen the DOH in implementing its existing health service programmes during the project's timespan.

A full and detailed report on the whole project will be covered in the Final Evaluation Report by the Bvaluation Team.

## II. BACKGROUND

### A) Child Survival Project's Descriptive Goal

The CS project in Lumi was initiated at baseline in October 1992. It was a world Vision USA project funded by the USAID. The main goal of this CS project was an emphasis on supporting and strengthening the existing health services of the DOH in order to reduce morbidity and mortality in children under 5 years and in their mothers by improving the ability *of* the DOH to provide Child Survival and maternal health services in accordance with the Provincial and National Health Department Plan. The CS project also looked at approaches in helping the DOH to promote integral human development through community effort and self-determination (ownership) of healthy living standards in communities.

As mentioned, much of the project's focus was on supporting the existing and routine activities of the DOH through the provision of resources (funding materials) and manpower. It was again to seek to foster community ownership of and public support for the implementation through the training and use of volunteer VBAs and the formation of the VDCs as community participatory approaches to help improve well-being of the people.

The CS project interventions included immunizations (EPI), oral rehydration therapy (CDD) nutrition, prevention of respiratory diseases (ARI), and malaria control programmes.

### B) CS Project Implementation Coverage

The project area of coverage initially (at baseline) did not specify boundary of coverage. Anyhow, the project staff, in consultation with the DOH in the District, decided that the project covers the whole District but did not necessarily mean every village was actually covered by the Project.

This project really covered an area with a total to date population of approximately 31,187 people with its 165 villages.

As outlined not every (of the 165) villages were reached by the Project directly. However, portions of the CS Project interventions coverage were through training of the DOH personnel and volunteer groups like the VBAs and VDCs from their nearby locations as part of extending the community participation.

### C) Demography and Location

Lumi District within Sandaun Province is the largest and most populated district, yet due in part to its size and isolation, much of the population does not have access to formal health services, infrastructure, development and other state services. Most of the population in the District are small-scale gardeners and gatherers with little to no cash income.

The infant mortality rate (due to API, diarrheal diseases, malaria and immunizable diseases) and malnutrition rate, among other key indicators of Child Survival, are among the highest in the Province. Its isolation and distance from major town centres increases transportation costs, resulting in high prices for food, high cost in transportation of medical supplies to health posts and difficulties in bringing maternal and child health care services and many other essentials to the bulk of the population. Much of the area's population is several days walk from the nearest health facility.

There are two major health centres (Lumi and Anguganak), three health sub-centres (Edwaki, Fatima and Ningil), 3 major aid posts and 31 single man aid posts. The total DOH personnel is about 64, comprised of one HEO, eleven nursing officers, 41 CHWs/APOs, and one health inspector. However, to date the staff strength has dropped due to transfers and so forth. Health facilities in Lumi are just like most of the rural set-ups in the rest of the country.

### D) Some Pre-existing Health Interventions and Their Levels Before Introduction of the CSP.

- \* A total of 71 Clinic (MCH) centres were programmed for MCH coverage. Due to financial constraints, the 40 outreach ones were not able to be covered [by DOH staff] on even a bi-monthly basis. Only 31 clinic sites, accessible by road transport and/or less than 4 hours walk, were covered.
- \* EPI equipments weren't available at 3 of the major aid posts

(despite the permanent facilities in place), or at 2 of the health sub-centres (Edwaki and Ningil). No MCH activities were conducted at these health facilities.

- \* All MCH patrols and other outreach activities like school medical patrols were suspended by the DOH due to financial cutbacks in budget allocations in 1992. School immunization coverage in the District was very low.
- \* Health education and nutrition promotion were operating at a minimal level if at all.
- \* No proper HIS existed for reporting and monitoring various statistics and activities in the District.
- \* As of 1993, there *were* no in-service training workshops for DOH staff, or community-based training programmes.
- \* The malaria control programme involving distribution of impregnated bednets, introduced in 1992, was halted in 1993 after the initial lot of 300 nets had been distributed.
- \* Immunization coverage was inadequate, at slightly above 60% for DPT1 and OPV1, 52% for BCG, and less for measles and second and third doses of series vaccines.
- \* Maternal health indicators were also low:

antenatal (new)	26.4%
antenatal (return visits)	3.3%
supervised deliveries	10.2%
tetanus toxoid	36.2%
F/P acceptors (new)	1.1%

- \* Nutritional status of children 0-5 years of age:

Weight-for-age status of 0-11 month olds:

>80%:	40%
60-80%:	45%
<60%:	5.6%

Weight-for-age status of 1-4 year olds:

>80%:	41.8%
60-80%:	53.3%
<60%:	4.9%

### III. CS PROJECT SUPPORT TO THE DOH SINCE JULY 1993

#### A) Strengthening of EPI Programme and Increased Coverage:

- \* Purchase of 7 gas refrigerators (vaccine) and 21 gas cylinders including freight for dispatchment and

installation at 2 major aid posts, 3 health sub-centers and 2 major health centres (85%).

- \* Conducted 2 training workshops for nurses and CHWs on EPI.
- \* Funding of **MCH** Clinic Patrols to 40 of the remaining uncovered clinic centres not able to be reached due to funding constraints experienced by the DOH, Total of 71 clinic centres were fully covered on monthly and bi-monthly rotations (100%).
- \* Funding towards EPI record-keeping, reporting and monitoring portions of the HIS for the DOH.
- \* Purchase and distribution of Child Health and weight-monitoring record books (300) to the DOH MCH Section for distribution [to children and their mothers].
- \* Funding towards travel expenses, carriers, food and cash advances for the DOH teams on MCH patrols bi-monthly, and on routinely reached clinics to date too. Also, occasional direct assistance with transportation (vehicle/driver) for MCH clinics and other outreach activities.
- \* Payments for air freight of vaccine supplies from Wewak to all the health facilities in the District on a bi-monthly basis.
- \* Training for DOH staff and key community members, including VDC representatives and VBAs, for EPI promotion, purpose and procedures for HIS use.

**B) Malaria Control Programme**

- \* Purchased bednets and re-treatment chemicals and provided transport for them to Lumi for distribution through the Health Inspector's Office to DOH health sites, VDCs and other community leaders or groups.
- \* Conducted one training workshop for nurses and CHWs on malaria control programme including impregnation of bednets.
- \* Included environmental sanitation for vector control in VDC and CHW training workshops.
- \* Funding provisions towards printing of record books and registers used in the bednet [distribution] program.
- \* [Note that] malaria prophylaxis is well-covered in MCH and antenatal clinics as a usual (routine) requirement for all pregnant mothers.

**C) AR1 Programme (Respiratory Problems)**

- \* Funding for one training workshop for nurses and CHWs on AR1

case management.

- \* Inclusion of health education on prevention of ARI in health clinics and at village level as well as in VBA training.
- \* Funding provision to printing of API record collecting, reporting and monitoring, together with the rest of the HIS.

D) Control of Diarrheal Diseases (CDD)

- \* One training workshop for nurses and CHWs on CDD funded by the CS project.
- \* Inclusion of Health Education activities in/during every mobile and static site-based clinic and health centre outpatient and in-patient department, as well as the aid posts.
- \* Provision of funding for CDD HIS forms and records.

E) Nutrition Activities

- \* Purchase of 60 Salter scales for weight monitoring at all health facilities in the District.
- \* Purchase and supply of 300 weight monitoring record books for children under 5 years.
- \* Purchase and distribution of seedlings to focus groups (mothers, schools, VDCs, VBAs, APOs) for home gardening demonstrations -- so far with good results and feedback.
- \* Increase health education activities (programmes) in/during all the MCH patrols and routine health clinics by both CS project staff and the DOH together.

F) VBAs

- \* Conducted two VBA trainings for selected community representatives of which a total of 22 were trained and [are] now in place in the District. So far the VBAs have done 16 successful deliveries after the training.
- \* Funding of locally made VDA kit boxes.
- \* Funding of VBA HIS report and register books.
- \* Continuous supervision being done by the project's public health nurses and CDW (Community Development Worker) -- the benefits are evident.
- \* Fund travel expenses for 1 midwife facilitator [to come] from outside the Province to facilitate the VBA training.

G) VDC Formation

- \* Funded 2 VDC training workshops for community representatives, which had 27 participants altogether. Ten trained [participants] have now established VDCs, which 7 of these 10 are currently very evidently effective to date. (The other 17 participating villages have not had supervision/monitoring visits).
- \* Supervision visits to established VDCs by the project staffs and the DOH have been very encouraging to the VDCs and overwhole community(ies) where the VDCs are formed and are doing work.

H) Health Information System (HIS)

- \* Total funding towards printing work, in-service training for OICs of health facilities within the District on the new HIS and the actual distribution to be used.
- \* Purchase of computer set [analysis software package] for HIS base for the District now already in place.
- \* The DOH has already started using the HIS including programmes yet to be fitted in to the new computer system by a specialist from National and Provincial DOH.

I) Other General Support/Assistance Given

- \* Freight costs for transportation of medical supplies including vaccines out of Wewak to health facilities in the district every 2 months [without] which the DOH used to be handicapped.
- \* Vehicle assistance (all purposes) when the DOH hadn't the government allocated vehicle due to funding problems.
- \* Stationeries and supplies to health institutions in the District for use [record-keeping/HIS, ordering, correspondence, etc.]
- \* Fuel supply for vehicle and generator at the Lumi Health Centre.
- \* Maintenance and repair costs on minor work done by contractors on staff housing [for example, repair of damage caused by heavy rains].
- \* Training for the DOH personnel involved in the final KPC survey for future knowledge and experience in such (activities] was great.
- \* Constructive discussions in the final KPC survey data analysis and evaluation with the expertise from Dr. Joe Wray



and Ellen Coates [were a] learning experience for both the CS project staffs and the DOH staff (HEO).

- \* Permanent accommodations facilities and office block now used by the CS project will really solve housing shortages and work space (problems] for the DOH when the project really comes to actual completion.
- \* Others too. Like the very most important, which was the overwhole cooperation and inter-communication link between the CS project staff and the DOH, which was very well-maintained to date. Participation by both the DOH and the CSP staff was excellent.

#### IV. CONCLUSION

As from the local DOH point of view in regards to the assistance given and put in by the project to support and strengthen the DOH in implementing its existing health services was very much commented for.

In reality comparison of activities and various coverages in the baseline were very low compared to some very good results obtained recently to date. Many interventions as outlined *in the project's* objectives were already in place by the DOH but weren't very effective due to resources, ability of DOH staff and the lack of community awareness and involvement, which did not raise high standards of attainment in all aspects. With the project's funding assistance, the DOH was able to conduct training workshops for both the DOH workforce and community-based training to foster community ownership of responsibility in improving their well-being. So, overwhole the CS project had done a lot of support and strengthening inputs to the DOH.

The DOH now hope to continue everything, especially if the current national financial crisis can be resolved soon.

#### V. RECOMMENDATIONS

- 1) Future CS project staff should have local personnel input as much as possible and the management should be a health-oriented person.
- 2) Future CS projects should have opportunities for the DOH or project staffs to attend workshops or training that are offered in the country to enable quality performance.
- 3) Future CS project establishment by a collaborative effort and participation from the top system down including involvement of DPI extension staffs at district level and at the Provincial DOH too.

## WORD OF THANKS

On behalf of the District DOH and the Provincial DOH in the Department of Sandaun (PNG) I wish to take this time and opportunity to thank all the CS project staff of Lumi whom (might or might not) be leaving soon, for all their time, effort, commitment and their loyalty in doing all the best they could in supporting and strengthening the DOH health services for the people of Lumi so far. We wish them all the best wherever they may go.

Also, the DOH wish to sincerely thank the World Vision PNG/Madang Office and PNG Port Moresby office for their coordinated effort and administrative input together with the technical expertise toward supporting and making things possible for the DOH and CS Projects staffs in Lumi to succeed their best during the period. And last, but not least, we would send our greatest sad but unforgettable words of thanks to the USAID for funding the project in Lumi District, as well as to the WV/USA staffs technical consultants, etc. who have contributed so much to the project in Lumi and overwhole PNG.

We look forward to you support in other projects that might come **your way**, or getting established in some other places. We wish you all the best in the future.

Thank you, and best regards,

Timothy Teklan  
District Health Extension Officer  
In charge of DOH/Lumi/PNG.